Vitto Vincent Form 4 October 22, 2010

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

OMB Number:

3235-0287

Expires: January 31, 2005

OMB APPROVAL

Estimated average burden hours per response... 0.5

Check this box if no longer subject to Section 16. Form 4 or Form 5

obligations

may continue.

See Instruction

SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,
Section 17(a) of the Public Utility Holding Company Act of 1935 or Section

30(h) of the Investment Company Act of 1940

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * 5. Relationship of Reporting Person(s) to 2. Issuer Name and Ticker or Trading Vitto Vincent Issuer Symbol MERCURY COMPUTER (Check all applicable) SYSTEMS INC [MRCY] (Last) (First) (Middle) 3. Date of Earliest Transaction _X__ Director 10% Owner Officer (give title Other (specify (Month/Day/Year) below) 201 RIVERNECK ROAD 10/21/2010 (Street) 4. If Amendment, Date Original 6. Individual or Joint/Group Filing(Check Filed(Month/Day/Year) Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting CHELMSFORD, MA 01824 Person (City) (State) (Zin

| (City) | (State) (2 | Table | I - Non-Do | erivative Securitie | es Acquired, Disposed | of, or Beneficial | lly Owned |
|------------|---------------------|--------------------|------------|---------------------|------------------------|-------------------|--------------|
| 1.Title of | 2. Transaction Date | 2A. Deemed | 3. | 4. Securities | 5. Amount of | 6. Ownership | 7. Nature of |
| Security | (Month/Day/Year) | Execution Date, if | Transactio | onAcquired (A) or | Securities | Form: Direct | Indirect |
| (Instr. 3) | | any | Code | Disposed of (D) | Beneficially | (D) or | Beneficial |
| | | (Month/Day/Year) | (Instr. 8) | (Instr. 3, 4 and 5) |) Owned | Indirect (I) | Ownership |
| | | | | | Following | (Instr. 4) | (Instr. 4) |
| | | | | (A) | Reported | | |
| | | | | (A) | Transaction(s) | | |
| | | | Code V | or Amount (D) I | Price (Instr. 3 and 4) | | |
| G | | | Code v | | Price | | |
| Common | 10/21/2010 | | A | 5,333 A \$ | \$ 0 10.666 | D | |
| Stock | | | | <u>(1)</u> | | _ | |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474

(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. 5. Number Transaction Derivative Code Securities (Instr. 8) Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | | Expiration Date | | 7. Title and Amo Underlying Sect (Instr. 3 and 4) | |
|---|---|---|---|---|---------|------------------|--------------------|---|----------------|
| | | | | Code V | (A) (D) | Date Exercisable | Expiration Date | Title | An or No of Sh |
| Non-Qualified Stock Option (Right to buy) | \$ 14.12 | 10/21/2010 | | A | 8,000 | 10/21/2010(2) | 10/21/2017 | Common | 8 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | | |
|---|---------------|-----------|---------|-------|--|
| | Director | 10% Owner | Officer | Other | |
| Vitto Vincent 201 RIVERNECK ROAD CHELMSFORD, MA 01824 | X | | | | |

Signatures

Charles A. Speicher, Attorney-in-fact

**Signature of Reporting Person Dat

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) These shares of restricted stock vest in two equal installments on each of October 21, 2010 and 2011.
- (2) This option vests as to 4,000 shares on each of October 21, 2010 and 2011.
- (3) Field N/A to this transaction but was completed to allow for electronic filing only.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

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